

INDEPENDENCE IN STUDENTS' PHYSICAL ACTIVITY

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The article considers the problem of students' independence in physical activity. The efficiency of combining cognitive activity and independence in students' physical activity is presented. The role of a physical education professor in the formation of students' independence in physical activity is revealed. The results of experimental work on the formation of students' independence in physical activity are reviewed.

Keywords: *motor activity, physical activity, motor activity, independence in physical activity, independence of students in physical activity.*

Introduction

Under the conditions of changes in higher education in modern Russia, issues of strengthening the physical and mental health of students and the formation of a healthy lifestyle are of particular importance. Statistical and scientific studies show that in educational institutions, due to an increase in the training load, the level of health of students decreases significantly, and the lack of active recreation, which involves a variety of means of physical education, leads to pathological irreversible damage [3].

Analysis of the current state of research and practice of university physical education indicates an increasing interest in the problem of developing the independence of students, the formation of their need for physical education and healthy lifestyles. The implementation of the FGOS (Federal State Educational Standards) is aimed at increasing the proportion of students' self-activity in physical education — more than 50 % of the time is allocated to the independent work of the student. In this regard, the functions of the physical education teacher are being modified. The teacher becomes an organizer of students' independent physical activity, an advisor on the organization and conductor of the student's independent physical training. The primary function is to show how to properly perform certain sets of exercises and their purpose [2; 3; 4].

However, the available studies (N. A. Simon, 2000; G. F. Shitikova, 2000; V. A. Vishnevsky, 2002; D. R. Khaibullina, 2002; V. K. Spirin, 2003; V. G. Shilko, 2003, etc.) do not sufficiently determine the theoretical and methodological foundations of the development of independence in the motor activity of students, where the persistence in the implementation of tasks considering the focus on the formation of the demand for independent physical education would be observed [2; 5; 6].

On the one hand, modern research highlights how necessary it is to develop students' self-sufficiency in physical education. A certain fund of methodological, theoretical and applied data was accumulated, which allows to implement the tasks set before a modern higher education institution concerning physical culture successfully. On the other hand, up until now there is no pedagogical system developed in the theory and methodology of physical education aimed at the development of students' self-sufficient physical education, and the role and functions of the physical education teacher in this process have not been defined [1; 2; 7; 8].

It is arguable that currently there is no system for the development of independence in the motor activity of students, aimed at improving the process of physical education in educational institutions.

Higher education teachers are faced with the task of developing a system for the improvement of students' autonomy in motor activity. The definition of the role and functions of a teacher in the development of students' independence in physical education and educational activities. It is an important scientific and practical task in the development of students' demand for physical education now.

The relevance of the study is emphasized by the following circumstances: the introduction of FGOS in the practice of universities; the problem of developing students' independence in the context of the integration of motor and cognitive activity, the lack of a clear definition of the role and functions in this process of physical education teacher as well as the contradictions between:

- the introduction of innovative educational programs and the lack of a unified strategy for the development of independence in the motor activity of students;
- the demand of the society in physically and intellectually developed and healthy graduates

of universities and the insufficient development of pedagogical methods and technologies to familiarize students with independent exercise of physical culture.

The object of the study: physical education of students.

The purpose of the study: to develop both theoretically and experimentally substantiate a system for the development of self-sufficiency in the motor activity of students that will increase the effectiveness of physical education at the university.

The hypothesis of the study. Presumably the development of independence in the motor activity of students would be more effective if the basic conditions for the development of independence (motivational, emotional and volitional sphere, sufficient knowledge, control of physical activity, self-control, self-esteem) were taken into account; a clear definition of the role, functions and degree of responsibility of the physical education teacher in the development of independence in the motor activity of students helped would solve the problem [2; 3].

Research objectives [2]:

1. To investigate the state of the problem of the development of independence in the motor activity of students in scientific and pedagogical research.
2. To develop and test diagnostic methods that will help to study the level of independence in motor activity, the development of the habit and the need for regular exercise.
3. To find out what psychological and pedagogical conditions for the development of independence in motor activity.

4. To develop and experimentally verify methods of effective development of independence in motor activity of students based on the integration of their motor and cognitive activity and aimed at introducing them to independent exercise of physical culture.

Research methods

A set of complementary methods of research was used to achieve the goal of the study, to solve the problems:

- methods of theoretical analysis (comparative, retrospective);
- diagnostic methods (questionnaire, interviewing, survey, psychological testing, testing the level of development of independence, activity, physical fitness, etc.);
- pedagogical supervision;
- pedagogical experiment;
- methods of mathematical statistics.

Main content

Analysis of the level of independence in motor activity (Fig. 1) showed that the average level prevails among first-year students. Most students' interest in physical education is unstable: they do physical exercises rarely, many of them are not interested in sport events, and they use physical fitness equipment in their independent physical exercise activities infrequently. This indicator for first-year students is 53 %, for second-year students — 67 %, for third-year students — (51 %). Fourth-year students have a low level of interest in physical education, as long as this interest weakens with each year, the majority

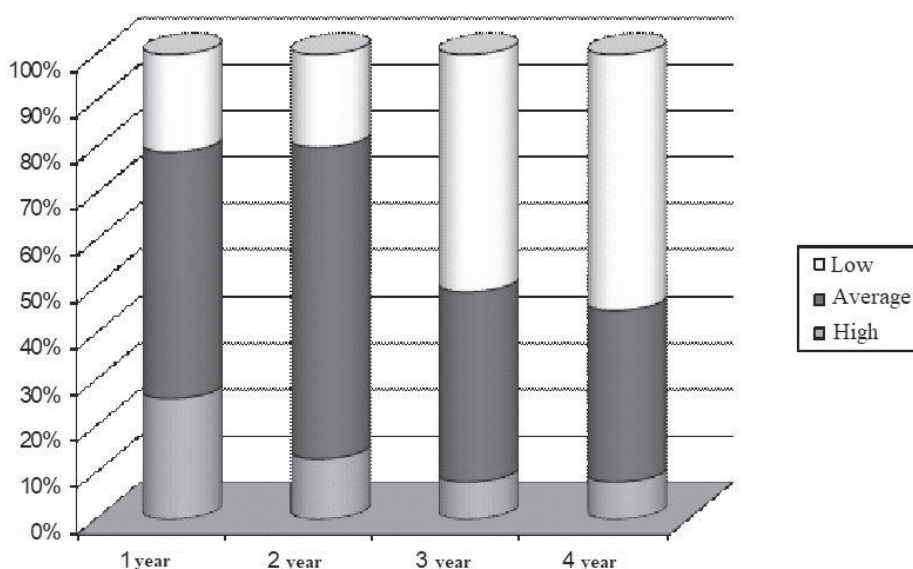


Fig. 1. Assessment of the level of independence in motor activity (%)

of students have little interest in sport events and have no desire to participate in them, the rate rises up to 55 %.

Unfortunately, the percentage of respondents who have a high level of interest with age decreases from 26 % (first-year students) to 8 % (fourth-year students).

The model of independence development elaborated on the basis of the system-integrative approach (Fig. 2) allows us to design the process of physical education in educational institutions and direct it towards the involvement of students in physical culture [1; 2; 3].

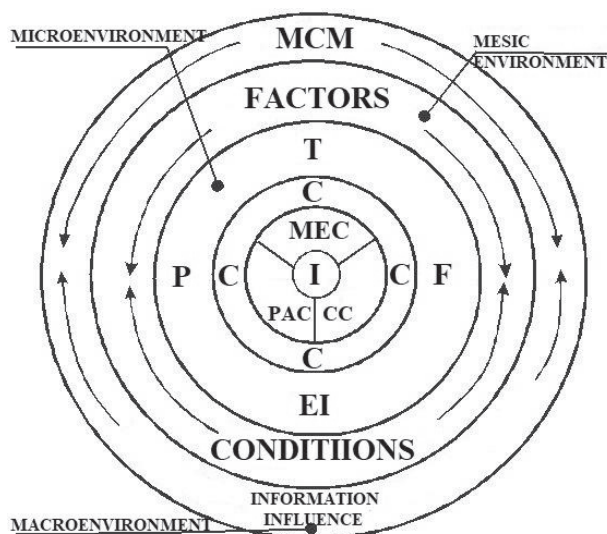


Fig. 2. Model for the independence development in a social environment [Vorotilkina, 2]

Notes:

- I — independence
- T — teacher
- P — peers
- F — family
- C — child
- EI — educational institutions

MEC — motivational and emotional component

CC — cognitive component

PAC — personal activity component

MCM — mass communication media

Identifying physical education of students as a monolithic system the main features of which are its integrity and integration, we believe that the study of the relationship between both the components of this system and individual factors that determine each of the subsystems, is the main precondition for students to engage in regular physical education, increase the autonomy in physical activity, improve physical fitness indicators.

While studying autonomy on the psychophysiological level, in the context of a functional system providing the optimal psychophysiological state of a person, it should be noted that autonomy in motor activity is a mental volitional quality which largely determines motor behaviour and is conditioned by appropriate psychophysiological mechanisms [1]. We tried to represent what place it takes in functional system determining optimal psychophysical state necessary for regular, organised motor activity, professional activity, rest and other types of human motor activity (Fig. 3).

If we consider the psychophysical state from such a perspective, it is very likely that it is ensured by a complex functional system in which the main key components and mechanisms can be schematically distinguished. Referring as a methodological basis to P.K. Anokhin's doctrine of the functional system and system genesis [1], we can reasonably assume that one of the main system-forming factors of the human psychophysical state is his motor activity.

A motivational and emotional component (MEC) is essential for the manifestation of independence in motor activity. It is the most frequently leading and formative one, as the development of the demand for motor activity and motivation of motor activity

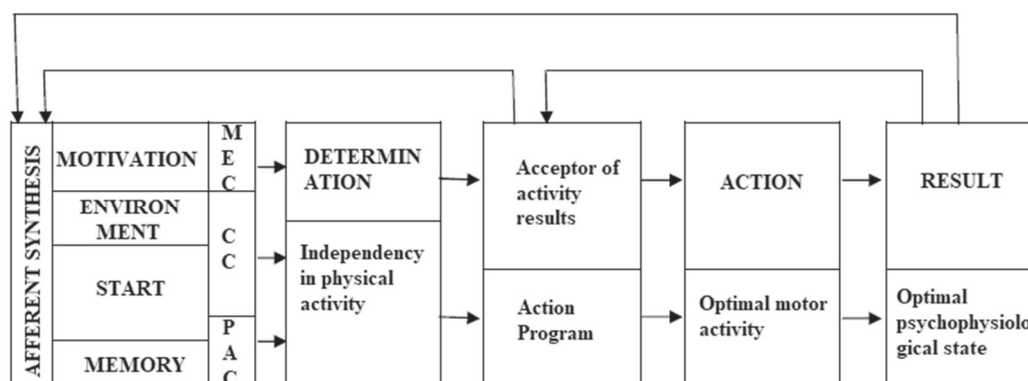


Fig. 3. A functional system that ensures the optimal psychophysical state of a person [Vorotilkina, 2]

directly determines independence in motor activity as well.

The cognitive component (CC) can directly influence the development of independence, or it can have an impact indirectly, by stimulating motivation of motor activity (at a subconscious level).

The cognitive component forms the cognitive sphere through the creation of a personality-oriented system of knowledge, which allows you to realise the importance of a healthy lifestyle (HLS) and provides a systematic, consistent knowledge of HLS, the role of physical culture in human life.

The personal-activity component provides motivational readiness for independent motor activity and promotes the improvement of motor skills. It is implemented through active forms and methods of learning, acquisition of knowledge about physical culture. It provides practical application of knowledge, skills and abilities in independent motor activity; promotes self-awareness and the mastering of practices improving one's own personality; forms a creative approach to independent motor activity; promotes an interest in physical culture.

Evaluation of the leading components figures out that the motivational-emotional component (MEC) is prevailing in students of all years, as the development of the demand for motor activity and motivation of motor activity directly determines the independence in physical exercise. Its paramount importance was shown by 71 to 81 % of respondents.

The cognitive component (CC) provides a systematic, consistent knowledge of HLS and the role of physical culture in human life. This component is the leading one for 10 to 25 % of respondents. We note a decrease in the cognitive component in students from the 1st year to the 4th year.

The personality-activity component (PAC) provides the practical application of knowledge, skills

and abilities in independent motor activity, promotes self-awareness, mastering the methods of improving one's own personality. The personal-activity component (PAC) was identified as the leading one by 6 to 16 % of the respondents. We should note the increase in its significance from the 1st to the 4th year (Fig. 4).

Analysis of the experimental data shows that, despite the fact that the motivational-emotional component is the leading, formative one, its influence does not yet demonstrate a high level of independence (Fig. 5).

We will consider it on an example. Independence is conventionally denoted by a circle (Fig. 5). The interaction of components is shown within each circle (C), where they either affect independence equally, or one component prevails over the other.

The place of realisation of this quality is in the decision making block of the functional system, which ensures processing, on the basis of dominant motivation, of all afferent information preceding its arrival in the brain, and continuous comparison of these results with past experience. The results of this processing are translated into different pathways that precisely correspond to the distribution of excitations for the desired act (P.K. Anokhin [1]).

This study examines the interaction of two types of activity: motor and cognitive, aimed at the end result — independence, the process of development of which occurs in a variety of forms, taking into account the psycho-physiological features of the development of students (Fig. 6).

Organisation of experimental verification of the research hypothesis

Students were offered an elective course in Applied and Recreational Physical Education.

The aim of the course is to form a health culture in students; promote a deeper study of the principles of

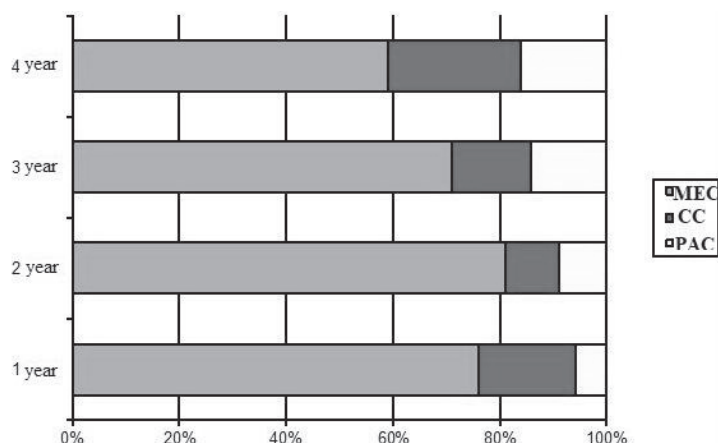


Fig. 4. Students' assessment of the leading components in the development of independence

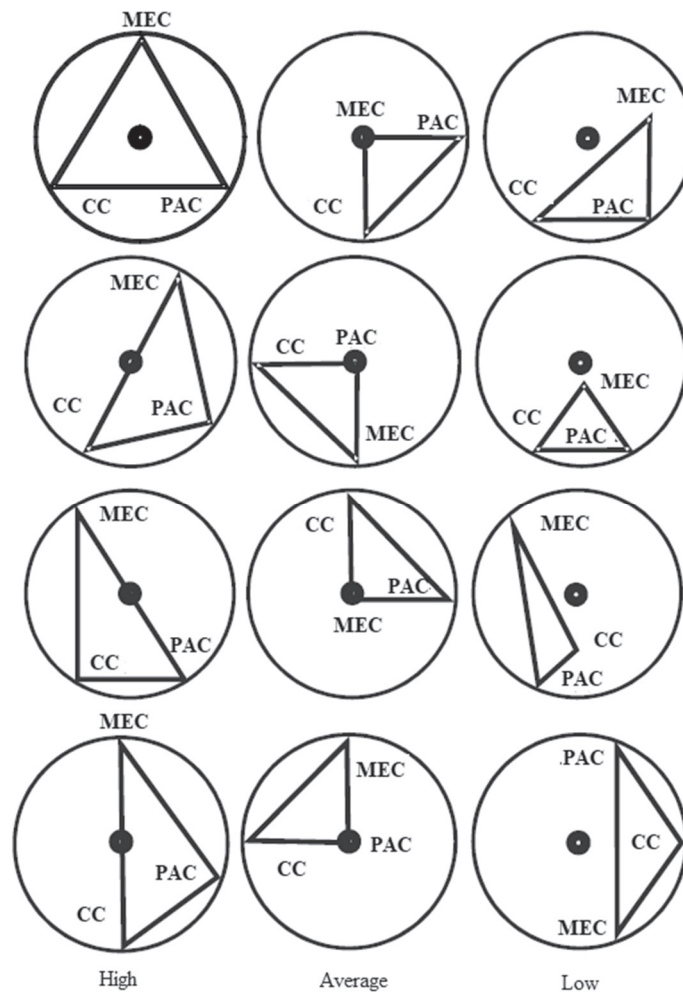


Fig. 5. The influence of components on the level of independence [Vorotilkina, 2]

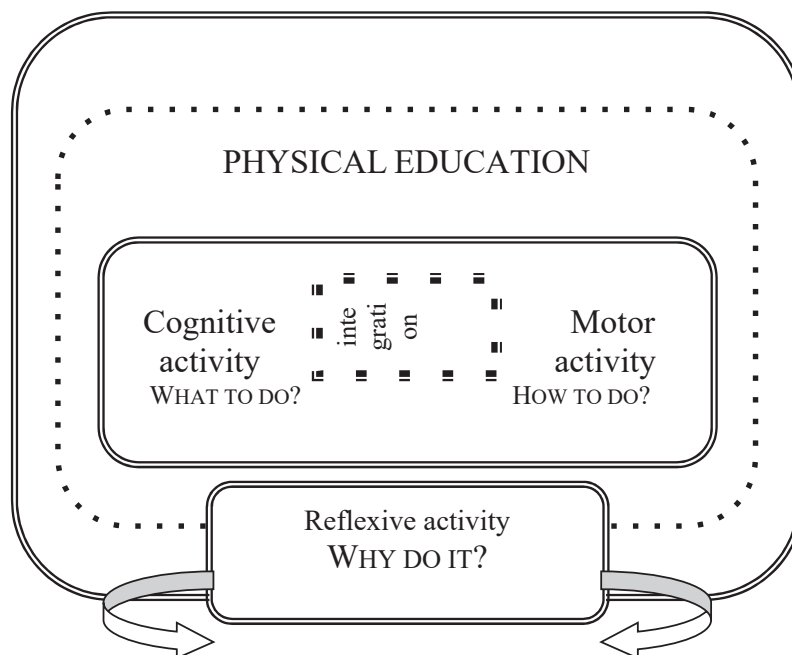


Fig.6. Interrelation of motor and cognitive activities of students [Vorotilkina, 2]

healthy lifestyles, increase the prestige of a healthy lifestyle, to attach to the use of physical culture and sports in independent motor activity, strengthen healthy attitudes and skills of responsible behaviour, reducing the likelihood of adopting bad habits.

The experiment involved 1—4 year students of Chelyabinsk State University numbering 362 people.

The physical fitness of students in the groups at the end of the experiment was better than that of students in the control groups (table 1).

That was also observed in the following academic year, when work on the issue of the elective course was not carried out with these students.

The analysis of the level of independence in motor activity showed that the majority of students have an average level of independence (Fig. 6). But at the same time, it should be noted the effectiveness of the work done with experimental groups, since after the

experiment, the percentage of young people with a high level increased from 6% to 18% in the first year and from 11 to 27% in senior courses. Students in the experimental groups have become aware of the importance of physical activity, have become more interested in physical education and sports and sports activities. They willingly participated and organised themselves. The number of students who are not interested in physical education and sports, not interested in sports activities and are not willing to participate in them, in other words, with a low level of independence, in the experimental groups decreased significantly — from 28 % to 6 % in the first year and from 39 % to 10 % in the senior year; in the control groups the percentage of students with low levels of independence has increased slightly (table 2).

The pedagogical experiment showed that the elective discipline “Applied and Recreational Physical

Table 1

Physical fitness of students of experimental and control groups

Tests	1st year		2nd year		3rd year		4th year	
	Abs	Rel	Abs	Rel	Abs	Rel	Abs	Rel
Standing long jump (cm, %)	5,25	3 %	6,3	3,5 %	5,15	3 %	5,05	3 %
Shuttle run 3×10 m (s, %)	0,33	4,2 %	0,29	4 %	0,34	4,3 %	0,35	4,4 %
100 m running (s, %)	0,44	2,5 %	0,64	3,8 %	0,44	2,5 %	0,44	2,5 %
Leaning forward from the I.P, sitting legs apart (cm, %)	1,82*	14 %	2,43*	18 %	1,82 *	14 %	1,82*	14 %
Pull-up on the crossbar, number of (%) (boys)	0,72*	6 %	1,17*	9 %	0,72*	6 %	0,72*	6 %
Push-ups, number of (%) (girls)	0,8	4,7 %	0,95	5 %	0,8	4,7 %	0,6	4,0 %

Abs, — Absolute indicators

Rel, — Relative indicators

* reliable at $p < 0,05$

Table 2

Assessment of the level of independence in motor activity (%)

Year	Group	Experiment	Levels		
			High	Average	Low
1st year	EG	Before	7	68	25
	EG	After	18	76	6
	CG	Before	10	63	27
	CG	After	9	61	30
2nd year	EG	Before	6	66	28
	EG	After	15	77	8
	CG	Before	8	71	21
	CG	After	8	60	32
3rd year	EG	Before	11	50	39
	EG	After	20	69	11
	CG	Before	9	61	30
	CG	After	10	42	48
4th year	EG	Before	11	76	13
	EG	After	27	63	10
	CG	Before	11	73	16
	CG	After	13	71	16

Education" allows students to form an interest and need for regular independent exercise of physical culture and sports from the very beginning.

Summary and Conclusion. The level of independence development in motor activity depends on the basic psychological and pedagogical conditions (motive, emotions, will, interest, knowledge, control, self-control, self-esteem), which must be taken into account while working with students. Moreover, the development of independence in motor activity depends on the content of the activity, the impact of various factors (physical education and physical culture), the environment, and the conditions of education, which act together on a complex structure of development and are determined by sex and age and individual characteristics.

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Поступила в редакцию 10 марта 2022 г.

Для цитирования: Ivanov, V. D. Independence in students' physical activity / V. D. Ivanov, O. V. Marandykina // Физическая культура. Спорт. Туризм. Двигательная рекреация. — 2022. — Т. 7, № 4. — С. 33—40.

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PHYSICAL CULTURE. SPORT. TOURISM. MOTOR RECREATION
2022, vol. 7, no. 4, pp. 33—40.

Самостоятельность в физической деятельности студентов

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В статье рассмотрена проблема самостоятельности студентов в физической деятельности. Представлена эффективность соединения познавательной активности и самостоятельности в физической деятельности студентов. Раскрыта роль преподавателя физической культуры в формировании самостоятельности студентов в физической деятельности. Рассмотрены результаты экспериментальной работы по формированию самостоятельности студентов в физической деятельности.

Ключевые слова: *двигательная активность, физическая активность, физическая деятельность, самостоятельность в физической деятельности, самостоятельность студентов в физической деятельности.*

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Финансирование. Исследование не имело спонсорской поддержки.

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